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City profile

Mandalay, Myanmar: The remaking of a South-east Asian hub in a country at the crossroads

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A B S T R A C T

This profile on Mandalay examines a frequently mentioned but little studied city, which is undergoing significant changes in its urban fabric and socio-economic landscape. After decades of political and economic isolation Mandalay is set to return to its once-held role of important trade and transport hub in South-East Asia. As it looks at Mandalay's geographical location and physical context, the article highlights the impact of climate change on a city already vulnerable to extreme weather effects. This is followed by an account of how the different historical phases experienced by the city impacted on its physical structure, with different sets of buildings accompanying its historical evolutions. Subsequently, the article describes Mandalay's current socio-spatial structures and reviews key policy and planning developments, before zooming in on a key development project currently in progress. Technical support and funding from the international community are playing a key role in assisting national and local authorities turn Mandalay into a resilient and sustainable city in the heartland of South-East Asia.

1. Introduction

Mandalay is a trade centre and transport hub of growing importance in mainland South-East Asia. At 1.7 m (according to the 2014 census) Mandalay is currently one of Myanmar's three top-tier cities, alongside Yangon and the capital, Nay Pyi Taw (Ministry of Immigration and Population, 2015).[1] It is home to about 11% of Myanmar's urban population, 2% of the country's overall population, contributing to 8% of its GDP (ADB, 2015a: 1–2). By 2040 it is estimated that Mandalay will be home to over 4 million people (ADB, 2015a: 6).

Historically, Mandalay was the site of the last royal capital of Burma under the Konbaung Dynasty before upper Burma[2] came under British rule in 1885.[3] Mandalay is also the centre of Myanmar culture and Buddhism, which is reflected in the dozens of pagodas and monasteries that mark the city's skyline. Mandalay's is a story of a purpose-built city that suddenly rose to prominence, came to occupy an important strategic role as Chinese nationalist troops were fighting Japanese forces in the 1940s, and then faded to being a backwater under the socialist regime's isolationist policies before surging back to its role as a trade hub. The city's name derives from Mandalay Hill, a hillock of just 100 m above sea level – an outlier of the Shan carp – that dominates Myanmar's central plains, overlooking the Ayeyarwady river (formerly Irrawaddy). As a result of population growth and rapid urbanization fuelled by recent economic development, Mandalay has become a crowded city, with decaying infrastructure, a lack of public services, including road congestion, high pollution, limited access to affordable public housing, and equally scarce employment opportunities. At the same time, the growing involvement of the international community, especially the Asian Development Bank and the United Nation's Human Settlements Programme (UN-Habitat), coupled with a significant rise in development assistance (Fumagalli, 2017a; Strefford, 2016), has quickly delivered a series of projects focused on urban resilience and green growth across the country, including in Mandalay.

This profile on Mandalay examines a frequently mentioned but little studied city, which is undergoing significant changes in its urban fabric and socio-economic landscape. The article is structured in seven sections. Next, it looks at the city's geographical location and physical context, paying special attention to its vulnerability to environmental disaster and the wide-ranging impact of climate change. This is followed by an account of how the different historical phases experienced by the city (pre-colonial, colonial, post-independence under various political regimes and types of interaction with the outside world)

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[1] Nay Pyi Taw (also spelt Naypyidaw) is another purpose-built city in Myanmar. Construction began in 2002 and was completed in 2005. The new capital was unveiled in 2006.

[2] I use the term 'Burma' to refer to the country prior to independence. For the following period I use Myanmar, although, formally, of course, the country was renamed only in 1989.

[3] Lower Burma, including Yangon (then Rangoon) was annexed in 1852 as a result of the second Anglo–Burmese war. The third and final war ended in 1885 and led to the formal annexation of the whole of Burma, incorporated in British India, from which it was formally separated in 1937 with the formation of a separate Government of Burma (1937–1948).

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Map 1. Myanmar.
Source: http://www.economist.com/blogs/graphicdetail/2016/03/myanmar-graphics.

impacted on its physical structure. Subsequently, the article turns to Mandalay's current socio-spatial structures and zooms in on a policy framework in rapid evolution. Lastly, it highlights some urban management and planning issues facing Mandalay's future development as a new, complex and growing hub in the heartland of South-East Asia.

2. Location and physical context: the impact of climate change

The Republic of the Union of Myanmar is located in mainland South-east Asia, bordering Thailand, Laos, China, India and Bangladesh (Map 1). The country looks over the eastern side of the Bay of Bengal. At a latitude of 21° 58′ 30″ and a longitude of N 96° 5′ 0″E, Mandalay lies in the heart of central Myanmar, in the central plains surrounded by the Shan hills in the east as the road winds up to the old hill station of Pyin Oo Lwin, the Ayeyarwady river and the Sagaing hills in the west.

Mandalay's landmarks are few but noticeable. First is, of course, Mandalay Hill, to the north of the city (Photos 1 and 2). Secondly, and as important, is Mandalay Palace, surrounded by walls and a moat (Photos 3a and 3b). To the west of the town is the Ayeyarwady river, which has long constituted one of the important forms of transportation (of goods as well as people) many years before the founding of the city itself. As the spiritual heart of the country, Mandalay is home to a magnitude of Buddhist pagodas and monasteries. A reflection of the city's multi-confessional heritage,[4] Sunni and Shi'a mosques, Armenian, Methodist and Anglican churches as well as Hindu and Chinese temples can be found across the town. Although the country is subject to three main seasons (a dry winter, a hot summer and a wet season), climatic conditions in Mandalay have changed in recent years with climate-related extreme weather becoming more frequent, with shorter monsoon seasons, long pre-monsoon droughts and extensive floods, as well as the occasional earthquake (ADB, 2015b: 1).

Due to its geophysical location, Myanmar is prone to a range of natural hazards, such as cyclones, floods, extreme temperatures and floods, and long-term climate change impacts (UN-Habitat, 2016a, b: 36). In fact, Myanmar ranks 2nd out of 183 countries most affected by extreme weather events between 1995 and 2014 in the Global Climate Risk Events (Horton et al., 2016: 17). The central dry zone, where Mandalay is located, is especially vulnerable to floods and droughts.

The effects of climate change are already being felt in Myanmar and will increase in the coming decades (Horton et al., 2017: 48). Recent events include Cyclone Nargis in 2008, extreme heatwaves in 2010 and flooding in 2015, which have had disastrous impacts on people, the economy and the environment (Horton et al., 2017: 6). Moreover, average daily temperatures increased by about 0.25 °C per decade between 1981 and 2010. These are expected to rise further over the coming century, with inland regions getting warmer than the coastal ones (Horton et al., 2017: 23). During the 2020s national annual average temperatures are projected to rise by 0.7–1.1 °C. This is even before large increases in greenhouse gas emissions, of which Myanmar is currently an insignificant emitter, are taking into account. The current situation is about to change as a result of rapid development and urbanization and the changing energy consumption patterns that these processes engender.

Climate change threatens to compound the frequency and intensity of such hazardous events. During extreme events in urban areas, 'failures in one infrastructure system – energy, transportation or water – can quickly cause failures in another system, leading quickly to cascading effects and compound crises' (Horton et al., 2017: 17). To tackle such challenges, Myanmar's new government is taking measures to mainstream climate change into climate-sensitive sectoral policies such as urban management and planning (Myanmar Platform for Dialogue on Green Growth, 2015; Ministry of Natural Resources and Environmental Conservation (MoNREC), (2017); UN-Habitat, 2016a, b: 9).

3. History

Mandalay is a relatively new city.[5] Construction only began under King Mingdon of the Konbaung Dynasty (and Burma's last king) in 1856. Construction began in 1856. If by then the bodily relocation of the royal palace from the previous capital of Amarapura was complete, it took well into the 1860s before the various allotments were allocated to the communities moving to the new capital. The idea of building a

[4] A devoted Buddhist, King Mingdon showed tolerance towards other religions. A small mosque, *Shwe Pannet Ya Masjid*, was built inside the royal palace, although this was demolished by the British colonial government to build a polo field. He allowed various sites to build mosques in Mandalay city for Panthays, Chinese Burmese Muslims. He also sent his children to the mission school run by the Anglicans Thant Myint, 2011: 136).

[5] The exact origins of the name are unknown. Mandalay may possibly derive from a Pali word, such as Mandare ('auspicious land'), Manadara (a mountain in Hindu mythology), or Mandala ('circular plains') (Moe and Nyo, 2015: 2). The city has also been known as 'Yadanabon' and 'Ratanapunna' (Fleet, 1911).

Photo 1. Author's photo, view of Mandalay Hill, April 2015.

new city was actually nothing new in the history of Burmese kingdoms, which were accustomed to moving capitals and building new cities. Plausibly, building a new capital city was seen as an essential step in augmenting prestige (Tainturier, 2008: 37). The construction patterns of Mandalay – the golden royal city, or *shwe myotaw* – construction was systematic (Khin Khin Moe and Nyo Nyo, 2015), starting with the building (or relocation, as it were) of the royal palace (*nandan*), surrounded by walls and a moat (Kirk, 1978: 387; Yee Yee Win, 2015), plus the gradual erection of various buildings (religious, institutional, commercial and residential). The new city was centred around the royal palace (Maps 2 and 3). Around this core zone would spread various townships, ordered around a grid, hence Mandalay's very orderly structure. Its construction patterns bore close resemblance to those of its predecessor Amarapura, with the palace moving first and the resettling of specific groups left for later (Ishikawa, 2014: 125). Of course not all of Mandalay was new (Ishikawa, 2014: 115–116). Despite its recent construction and the artificial resettlement of populations previously living in Amarapura, there were communities of traders already settled to the west of today's Mandalay near the bank of the Ayeyarwady river, such as the Min-Tai i-kin district, in the seventeenth century (Ishikawa, 2014: 116), pointing to a more complex history than the city's recent origin and artificial construction would otherwise suggest.

Various incidents and hazards over the years forced some alterations to the original structure and reconstructions. Mandalay Palace was burned down in a fire in 1945 and its rebuilding was completed in 1989 (Philp & Mercer, 2002:1600). The military regime tried to enhance its legitimacy and build national identity by reconstructing the royal palace, pagodas and temples therein. The old building of the Zegyo market (also spelt as Zaycho), the largest retail and wholesale bazaar in the city, was also completely destroyed in a fire in 1897 and rebuilt in 1903 (in the 1990s the military erected a new, more modern building in its place). Other markets have also been destroyed by fires, such as the Yadanabon and Mingalar markets in 2008 and 2016 (Myanmar Times, 2016; Reuters, 2008).

3.1. The road to Mandalay

Apart from its royal origins, Mandalay's role in history is secured both by its strategic location, which connects it to the wider Southeast Asian region (Kirk, 1978; Le Bail & Tournier, 2010; Maung, 1994; Steinberg and Fan, 2012). As historian Thant Myint-U aptly, if emphatically puts it: “Draw a circle around Mandalay with a radius of a

Photo 2. Author's photo, view from Mandalay Hill, Mandalay, July 2014.

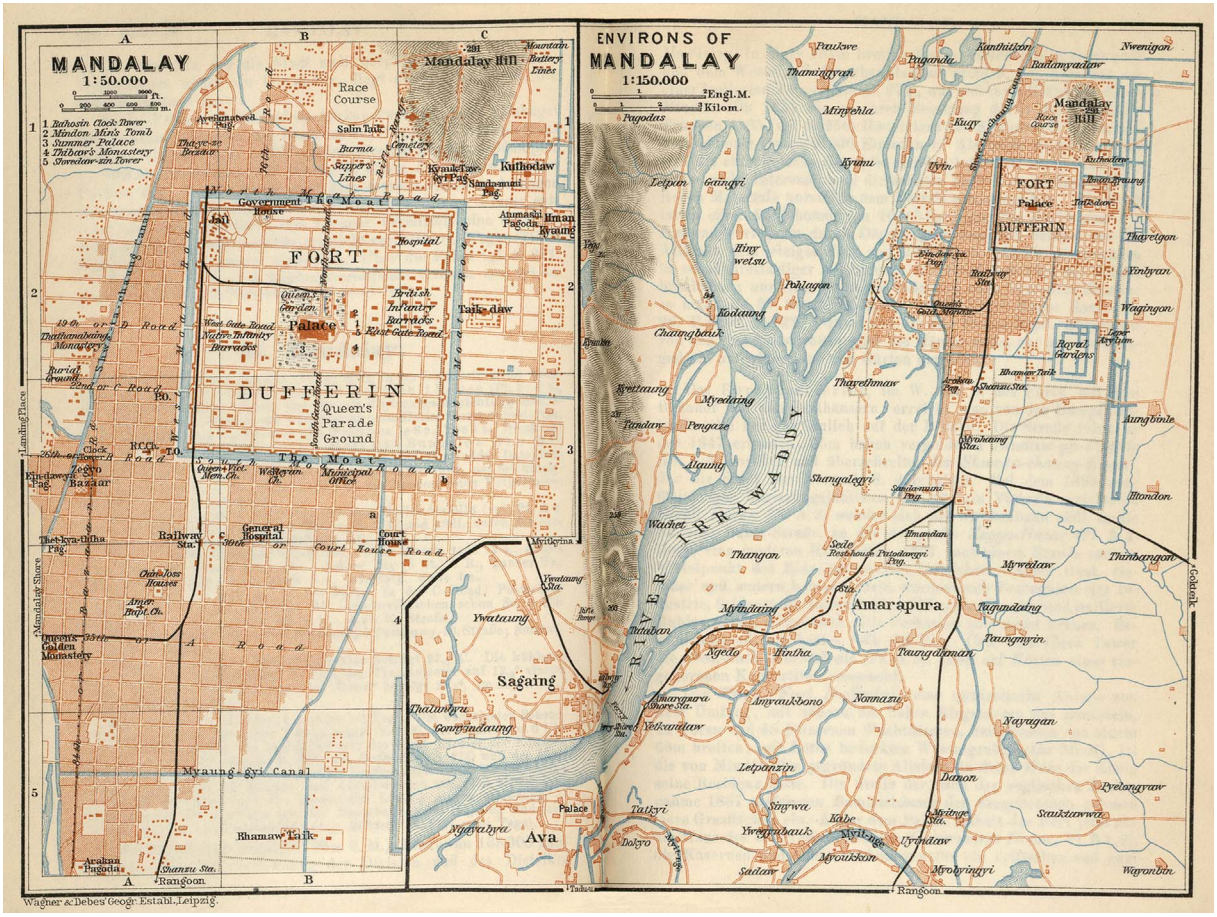
Photo 3a. Author's photo, army slogan on walls of Mandalay Palace, April 2015 and May 2016.

Photo 3b. Author's photo, army slogan on walls of Mandalay Palace, April 2015 and May 2016.

little more than 700 miles. That circle reaches west over Bangladesh and across the hill states of India to Assam, West Bengal, Orissa and Bihar; north and east to China's Yunnan and Sichuan provinces and parts of Tibet and southward to cover most of Laos and Thailand" (Thant Myint, 2011: 54).

Interest in the establishment of a 'Burma road' (the 'road to Mandalay') dates back to the expansion of British colonial rule from lower to upper Burma in 1885, as the British government thought the route could further trade links with south-western China (the Yunnan province). This became the pretext for ousting King Mindong and his son Thibaw. The first Burma Road was actually built in 1937–38 to ensure that British troops to the south and Chinese nationalist troops to the north could connect with each other as the fight against Japan ravaged across East Asia in the first half of the twentieth century. In the 1940s the Kuomintang (Chinese nationalists) retreated as a result of the defeat in the Chinese civil war through the mountainous jungles of northern Burma. Suddenly, its centrality ended. The isolation in which the country's socialist regime plunged itself from 1962 until 1988 under socialist dictator Ne Win meant that cross-border trade links were severed. Gradual cross-border links were restored starting in 1988, when the military regime under junta chief Than Shwe looked to China as the country's main security provider and key commercial partner. Mandalay gradually recovered its role as a trade and transport hub (Le Bail & Tournier, 2010). The SLORC (State Law and Order Restoration Council), as the generals named the junta ruling the country from 1988 till 2011, dramatically expanded and deepened Myanmar's relationship with China (Maung, 1994), a move that was neither new nor uncontroversial. The Sino–Myanmar relationship was cemented by similar experiences of government-orchestrated massacre (in August 1988 in Myanmar and in May 1989 in China), which led to the isolation of and sanctions on the two countries. The SLORC and the vice governor of Yunnan, the south-western province of China, had a number of deals resulting from a border trade agreement with China in 1989 and from then the neighbouring countries and China subsidized the military junta, renovating or building the roads and bridges to support further trade. The SLORC made further agreements with China to enhance trade, infrastructure and transportation in 1993.

Even in the eyes of the generals, not all of China's influence was benign. Some of the most intractable insurgencies in the country, such as those in the Kokang and Wa regions, east of Mandalay, could have only lasted for so long only thanks to the support, both military and political, from China. The Wa State Army is located in the south and east of Muse, with 30,000 fighters, and the militia has been engaged in drug trafficking and casino business as well as opium production for decades. Myanmar's biggest conglomerate, Asia World – founded by the ethnic Wa, Lo Hsing Han, the 'Godfather of Heroin' – and its



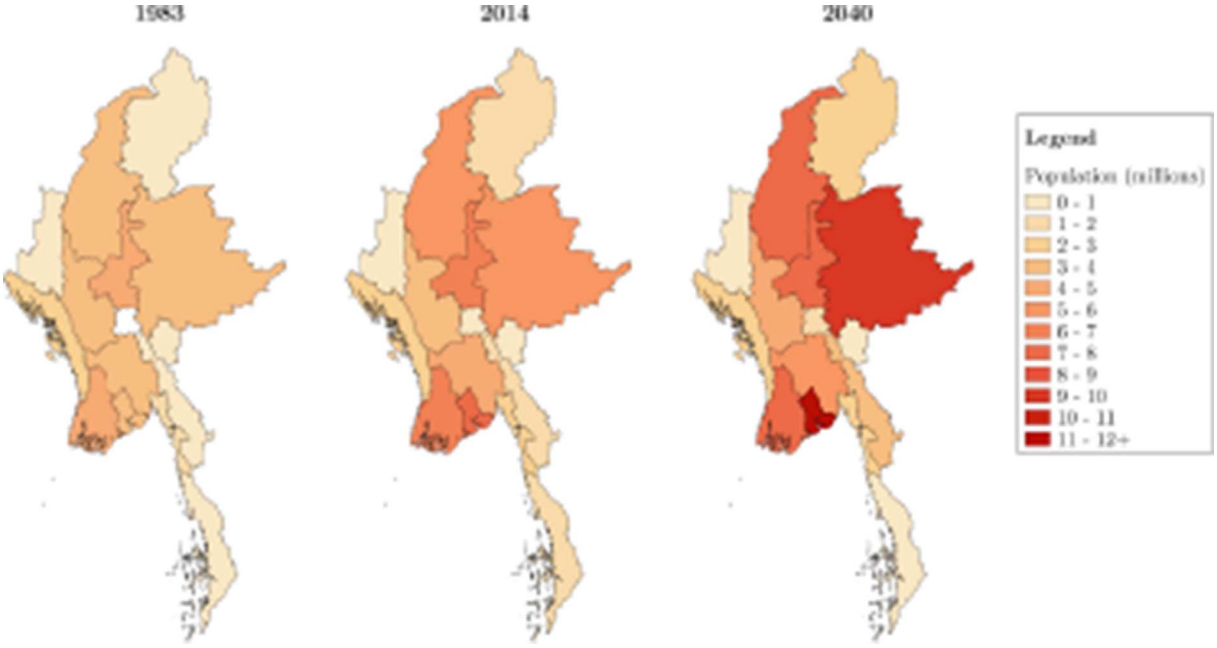
Map 2. Historical Mandalay (1914).
Source: *Indien: Handbuch Für Reisende* (Verlag von Karl Baedeker in Leipzig, 1914), available at http://www.lib.utexas.edu/maps/historical/baedeker_indien_1914/txu-pclmaps-mandalay_1914.jpg (accessed 3 April 2017).

Map 3. Geospatial satellite image of Mandalay.
Source: Google Earth.

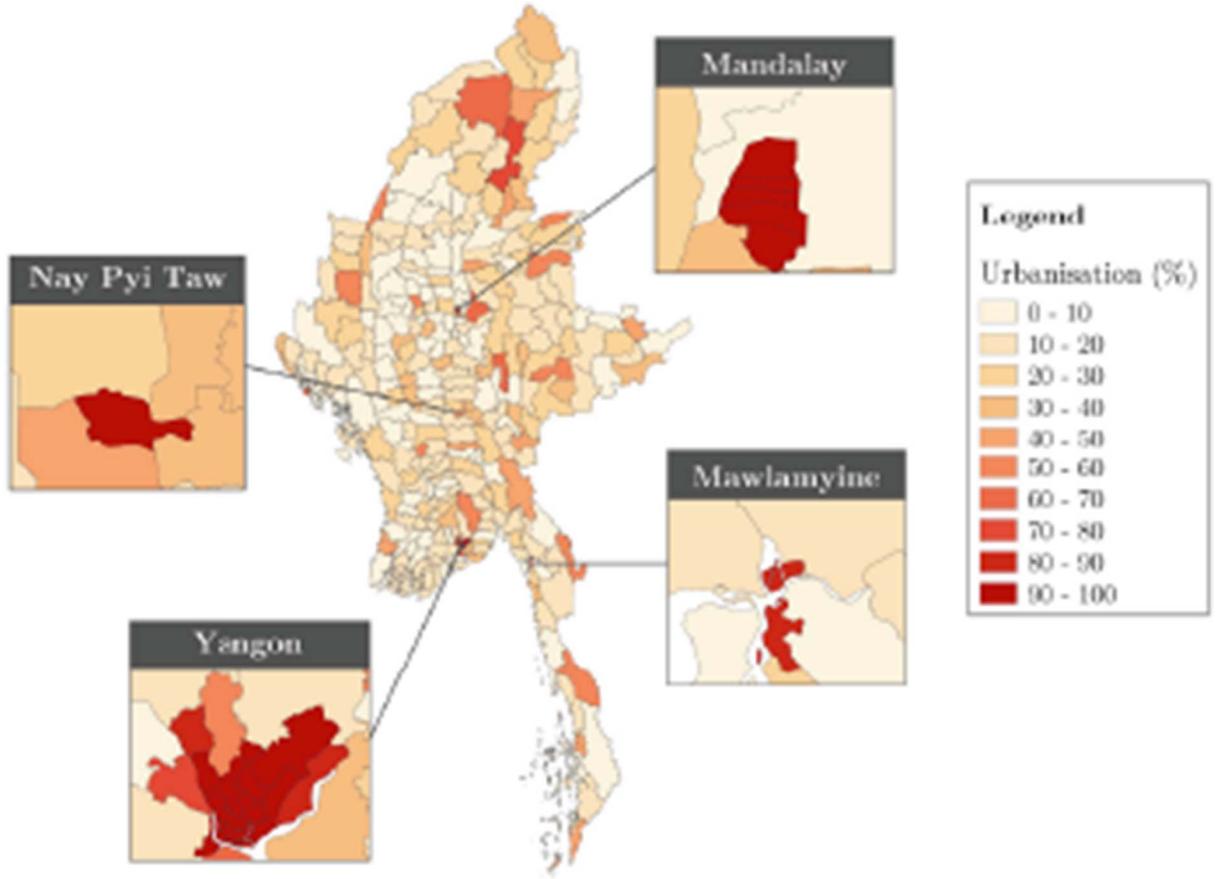
relationship with the Burmese regime led to US sanctions on Myanmar in the past and Asia World operates the toll road between Lashio and Muse (Donnan, 2014).

The inflow of goods and people intensified from 1988 and led to the increase in anti-Chinese sentiments among the local Burmese population.[6] Mya Maung laments Chinese dominance, noting the rise in immigration, trade, and economic and security dependence on the larger neighbour to the north (Mya Maung, 1994). Although the

[6] Interview with academics at Mandalay University, Mandalay, April 2015.



Map 4. Employment share by sector.
Source: Dobermann, 2016: 10.



Map 5. Population growth in Myanmar.
Source: Dobermann, 2016: 6.

demographics do not support concerns over an invasion from the north (Chinese Burmese are estimated as 3% of the total population in Myanmar), large communities of ethnic Chinese are concentrated in Mandalay, particularly in the market area, possibly up to 30–40% of the city's population,[7] although Le Bail and Tournier point out that this may include Chinese businessmen and sellers with short-term visas (Le Bail & Tournier, 2010: 36). Historically Chinese migrated to Mandalay either from neighbouring Yunnan or from Fujian and Guandong provinces, and the presence of Chinese traders goes back to at the very least the seventeenth century.

Nowadays, Myanmar passports are also easily purchased on the black market (Le Bail & Tournier, 2010: 36). The fear among many residents of Mandalay is that Chinese-built and operated hotels, entertainment parlours and restaurants will replace the more traditional Burmese character of the town. Be that as it may, Chinese in Mandalay have not come via Yangon, the country's main commercial city, but rather the road to Mandalay connects the main city in upper Myanmar with Kunming in Yunnan through the Shan towns of Muse and Lashio via the Golden Triangle of Laos, Thailand and Myanmar, an area infamous for being one of the world's largest areas of opium and heroin production (Le Bail & Tournier, 2010: 3; Maung, 1994: 449–450; Donnan, 2014).

4. Myanmar's transitions and the post-2011 reforms: from backwater to an economic and transport hub again?

A profile of Mandalay would be incomplete without contextualizing recent social and economic developments in the broader, multiple transitions that the whole country has been experiencing since 2011. Although space constraints do not allow a full account of such events (Huang, 2017; ICG, 2016; Kim, 2016), a number of considerations are needed, as they all crucially affect Mandalay. Myanmar's political transition has been one of the most stunning events in recent years. After over five decades of a brutal authoritarian regime, in 2011 the generals formally handed over power to a nominally civilian government (though still dominated by former generals). This kick-started political liberalizations, which eventually gave way to the 2015–2016 elections and the formation of a new government in the spring of 2016 (Fumagalli, 2017b; ICG, 2016; Kim, 2016). The first free and fair elections in over 50 years (since 1960) led to a landslide victory for the National League for Democracy and the crushing defeat of the until then ruling and military-supported USDP. A key issue, nonetheless, remains the constitutionally protected role of the military (the *Tatmadaw*) – which occupies part of the palace and of whose presence visitors are reminded whenever they reach it ('the *Tatmadaw* will never betray the national cause'). It enjoys 25% of reserved seats in the legislature, appoints three crucial ministers (home affairs; border affairs; defence) and is now in a delicate cohabitation with the new civilian government, de facto led by Aung San Suu Kyi, the state counsellor and foreign minister.[8]

Economic liberalization actually pre-dates political changes and was central to the military takeover in 1988. International isolation might have continued as a result of the international sanctions imposed on the regime following the crackdown of 1988 and the establishment of a military regime. At the same time, as countries like China, Japan, Singapore, Thailand and India continued to do business with the country, it was mostly ties with the West that were severed (Fumagalli, 2017b. By the time the sanctions were lifted between 2014 and 2016, the country looked very different. The new political environment created the political goodwill among the international community for some sort of remedial action, which led to a flow of international assistance, as well as investment (Fumagalli, 2017a). In fact, the country found itself under a deluge of aid. Welcome as this might have been, low state capacity meant that the country was unable to either manage the projects or even spend the funds (ADB, 2015b). The economic links with China, which Mandalay and its population so well illustrate, were not cut or curbed, but rather complemented with broader international economic partnerships.

Myanmar, bordering some of the world's fastest-growing economies like India and China, enjoys a strategic location on one of the spurs of China's One Belt, One Road (OBOR) initiative, President Xi Jinping's flagship $1tn set of infrastructural projects aimed to create land, rail and sea networks linking China to the rest of globe. Nowhere is this more evident than in Mandalay, which also sits on the gas and oil pipelines taking Myanmar's hydrocarbons in the Andaman Sea to the Yunnan province as well as on the North-Eastern Economic Corridor of the Greater Mekong Region.

The remainder of the article consists of a brief account of the salient characteristics of Mandalay's contemporary urban structure after decades of neglect under socialist and military rule, before turning to the effects that urbanization is having on urban management and planning. The author has conducted several research visits to the city since 2013 (about four weeks per year). A number of interviews were conducted with city officials and experts as well as traders and slum-dwellers in Mandalay in April 2015 and April 2016.

5. Spatial structure and land use

Myanmar remains a largely rural country, with over two-thirds of its 51 million inhabitants living outside the cities. In 2000, about 14.6 million (ca. 29% of the total) were living in cities, whereas this figure had increased to 18.4 million (31%) by 2010. Over 10% of the overall country population lives in Yangon and Mandalay (Maps 5 and 6). Both cities contribute to 30% of Myanmar's GDP, with the share expected to rise to 50% in 2030 (ADB, 2015c: 1) (Map 4).

Mandalay is an expanding city, with a growing population and added strains on urban services and infrastructure (Tables 1 and 2). As mentioned earlier, the city is relatively new, despite the presence of earlier settlements that preceded the formal establishment of the city. According to the National City Development Plan 2016–2021's bipolar development strategy, the government is committed to the development of the city of Mandalay as a way of distributing economic growth more evenly across the country and relieving the pressure (on infrastructure, resources, services) on an already congested, overcrowded and overstretched Yangon.

The city is currently divided into six townships, proceeding from north to south: Aungmyathasan (which encompasses Mandalay Palace and Mandalay Hill), Chanayethasan, Maha Aungmyay, Chanmyathasi, Pyigyi Tagun and, lastly, Amarapura (Map 7). There is no 'downtown' as such in Mandalay, as different areas of the city serve different functions.

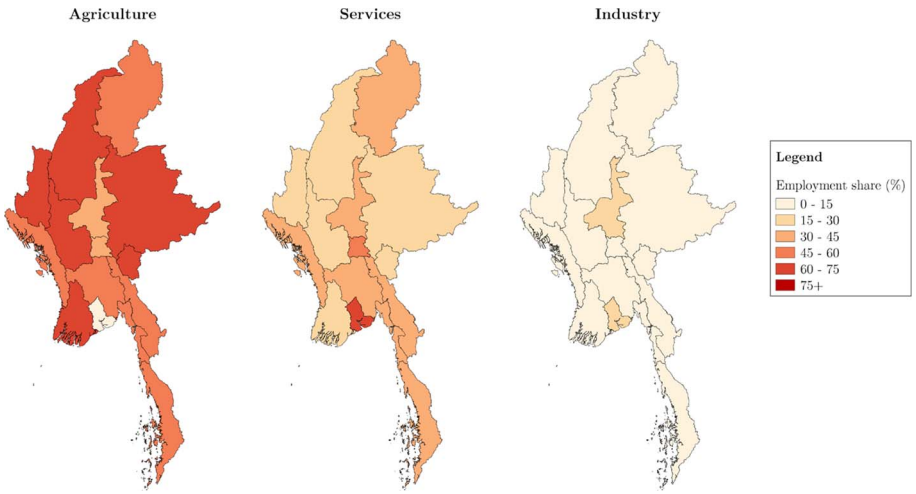
Mandalay's spatial structure fundamentally consists of four areas that are distinctive and whose buildings were constructed according to the rulers of the time and whose functions reflect the type of rule (Moe and Nyo, 2015: 10). These are:

- Religious buildings near the river – until the city's foundation, the most important transport route – and at the foot of Mandalay Hill, typically built before 1859.
- Institutional buildings around Mandalay Palace and south of the moat, built between 1859 and 1885.
- Industrial and commercial buildings, built during 1885–1948.
- Residential buildings, built between 1948 and 1962.

Religious buildings include the pagodas (*paya*), and monasteries and community halls (*zayat* and *dammayon*) that pre-existed the founding of

[7] Interview with officers at the Mandalay City Development Committee, April 2016.

[8] The president is Htin Kyaw, an NLD member and close aide to Aung San Suu Kyi, who was and is ineligible to run for the presidency because of art. 59f of the 2008 Constitution, which bars the spouses of non-citizens from being president (Aung San Suu Kyi's late husband and two children are British citizens).



Map 6. Share of people living in urban areas in Myanmar. Source: Dobermann, 2016: 2.

Table 1
Mandalay's population census in the 20th century.
Sources: U Kyaw Thein (1996); 2014 Census; Grantham (1923); Immigration and Manpower Department (1986); Ministry of Immigration and Population (Department of Population) (2015); Ismael and Khim Maung (1986).

1953	185,867
1962	215,426
1973	417,938
1983	532,949
1993 (est)	661,489
2014	1,726,889

Table 2
Mandalay city census 2014.
Source: 2014 Census and Ministry of Immigration and Population (Department of Population) (2015).

Name	Status	Population
Mandalay	District	1,726,889
Amarapura	Township	237,618
Aungmyethazan	Township	265,779
Chanayethazan	Township	197,175
Chanmyathazi	Township	283,781
Mahaaunmyay	Township	241,113
Patheingyi	Township	263,725
Pyigyidagun	Township	237,698
Myanmar	Republic	51,486,253

the city. Although they literally 'pepper' the city, these are primarily located along the river (western side of town), at the foot of Mandalay Hill and around Mandalay Palace. Mosques, Chinese and Hindu temples pre-date the founding of the city, with some Hindu temples dating back to the Bagan period in the eleventh to the thirteenth centuries. Christian churches (predominantly Methodist and Anglican) were built after the establishment of the city by King Mindon. Institutional buildings were constructed after upper Myanmar also fell under British rule (Moe and Nyo, 2015, p. 6). These include the Royal Palace, the Palace Wall, the moat, the gates and bridges and the Royal Watch Tower, as well as general administrative offices, the General Post Office, Mandalay University, and also health-care centres and recreation centres (Khin Khin Moe and Nyo Nyo, 2015: 10). Commercial and industrial buildings include various factories for armaments, rice mills, sugar mills, cotton ginning mill, many of which were built under King Mingdon. Finally, residential buildings – many of which were destroyed during the various wars or fires – are primarily concentrated around the palace and different allotments are allocated by the King to different groups, also according to when these relocated from Amarapura to Mandalay city. The co-existence of these different buildings and the different periods in which these were built reflects the city's economic and ethno-religious diversity and its complex history (Ishikawa, 2014: 113), something which its systematic planning and rather simple grid-based spatial structure could easily conceal.

Central to Mandalay are the markets. The most famous of these are Zegyo (the sweet bazaar, Photos 5a and 5b) and Tayake-tarn Zay (the China Town bazaar). Before the trade agreement in 1989 between China and Myanmar, the two markets served as black markets where various smuggled goods were exchanged, but after the legalization these two markets became the busiest centres for the sale of retail and wholesale products (Mya Maung, 1994: 448). Most products in the Zegyo and China Town markets are made in China and the products are manufactured goods range from as knives, pots, electronics, and scooters to fabrics. Most of the home-made products are food or agricultural products.[9]

Similarly to Yangon and other big South-East Asian cities (Morley, 2013), Mandalay is also home to slums, located near the Ayeyarwady river, in close proximity to the market, and, in fact, in a pretty scenic part of town. Further away from the central part of town, Mandalay Palace and the religious and administrative buildings, squeezed between the river and the fish market are the shanty towns where locals live on about 3 to 5 dollars a day (Photos 4a and 4b).[10] Most of the breadwinners of the huts earn their living by delivering goods from the ships in the port transporting rice and wheat. While the ships are moored, the residents by the riverside use the toilets on the boats. The locals say people on the riverside are poor but across from the road on the riverside, the inhabitants are relatively well off. Last but not least are the satellite towns on the outskirts of the city, where ethnic Burmese political dissidents were forcibly resettled by the military after the 1990 elections, won by the opposition NLD and never recognized by the regime. In their place came waves of Chinese immigrants from neighbouring Yunnan.

6. Urban management and planning issues: the challenge of building a resilient and sustainable Mandalay

Rapid economic development is accelerating the pace of urbanization in contemporary Myanmar. The difficulties the city's dwellers face in terms of delivery and quality of services and infrastructure are as much a reflection of changing realities on the ground as the result of fairly outdated policies and governance structures. Policy innovation

[9] Interviews at Zegyo and Tayake Tarn-zay markets, April 2016.
[10] Interviews with local shanty-town dwellers, Mandalay, April 2015 and 2016.

(caption on next page)

Map 7. Mandalay today.
Source: Design Printing Services Co., Ltd. (D.P.S.), Kyauktada Township, Yangon, Myanmar (Burma).

and institutional reform are especially urgent in Myanmar where some of the laws go back decades. In this regard, the government's 12-point national economic policy announced in July 2016 included a commitment to build sustainable cities, bringing a much-needed focus on urban development and housing issues. Drawing on the National League for Democracy (NLD)'s own campaign manifesto, the government pledged to '[…] establish towns that are compatible with environmental conservation, to enhance public services, to create more public places and to protect cultural heritages' (Government of the Republic of the Union of Myanmar, 2016). Further to this, the Ministry of Construction (MoC) has committed to 'new urban agenda' (UN-Habitat, 2016a, b: 4) through a wide range of priority programs, including the development of national-level policies such as a National Urban Policy (NUP) paving the way to large-scale sustainable urbanization, a national housing policy aiming to provide inclusive and affordable housing for its citizens, a National Spatial Development Framework (NSDF), a National Building Code, and legal frameworks such as the Urban and Regional Planning Development Law.

If the updating of the policy framework was long overdue, adapting the governance structure is not any less urgent. The city has been governed on the basis of fairly dated municipal laws that go back several decades. The Mandalay city development law was introduced in 1992 and the Development Committee Law was introduced in 1993. The latter established the Mandalay City Development Committee (MCDC), in charge of local administration, tax collection, urban development, raises revenues tax, fees, licence, and property development (UNDP, 2014: 29). The MCDC is the main institutional body presiding over the city, and is tasked with the delivery of urban services and infrastructure development (ADB, 2015a: 6). The Mandalay Regional Government (MRG) does not directly intervene in urban management matters, but rules on issues of infrastructure projects and urban service tariffs. Despite the government's efforts at de-centralizing authority and streamlining decision-making, however, a single actor with authority to make decisions at a local level is missing (Dobermann, 2016: 16). The result is a 'strongly hierarchical, compartmentalized' and dysfunctional governance structure, with the mandates of the Ministry of Construction and local city government (the Mandalay City Development Committee) blurred (Dobermann, 2016: 16), thereby resulting in considerable confusion.

Updating the policy framework and modernizing governance structures would be a tall order for any government, and this is especially so in the case of Myanmar's, confronted with countless priorities and limited capacity, skills and funds. Crucially, national and local actors have been able to rely on the advice, support and funding of a number of international actors. The UN Human Settlements Programme, in cooperation with the Ministry of Construction, has advised on the development of a new National Urban Policy and the National Spatial Development Framework, with the aim of establishing

Photo 4. 'Author's photos, shanty town alongside the Irrawaddy river, Mandalay, July 2013 and April 2014'.

a hierarchy of cities across the country. Yangon, Mandalay and Nay Pyi Taw, Myanmar's top-tier cities, are identified as national strategic growth centres (Dobermann, 2016: 9). Mandalay's role is especially important here as in the National City Development Plan 2016–2012 the government commits to a 'bipolar development strategy', identifying in Mandalay an alternative pole to Yangon so as to relieve the pressure on the former capital.

To recall, Myanmar suffers from acute climate change vulnerability, a predicament expected to deepen in the period up to 2030. Rapid economic development will accelerate urbanization and will increase the size of cities and urban centres, putting additional strains/pressure on existing urban infrastructure and services (UN-Habitat, 2016a, b: 7). A key component of UN-Habitat's mandate in the country lies in supporting the government of Myanmar in its development of various policies and strategies as well as the expansion of the urban planning capacity, an area in which expertise is greatly needed (UN-Habitat, 2016a, b). UN-Habitat 'supports the development of planning capacity in Myanmar by supporting city, regional and national authorities to improve and adopt policies, plans and designs for more compact, socially inclusive, better integrated and connected cities that foster sustainable development and are resilient to climate change' (UN-Habitat, 2016a, b: 4).

So far Myanmar has focused on infrastructure and big-picture planning (Dobermann, 2016: 18). In the coming years the authorities will have to focus on specific issues affecting cities and towns across the country. To be clear, despite the progress made in the policy-making realm, the challenges the city and its population are confronted with remain countless. Housing is crucial, both in terms of the actual number of affordable accommodation and the quality thereof. Recent waves of migration from the countryside have added extra strains to an already critical situation. Government-owned affordable housing is vital to ensure that poorer urban-dwellers have access to decent living conditions. Related to this are the widespread problems concerning access to water and the lack of a water supply system (more on this below). Although the conditions on the embankment are somewhat extreme, half of the city's population lacks access to treated water. Next is transportation: Even a cursory visit to Mandalay will highlight the poor state of the roads, the high volume of traffic and the congestion caused by both cars and scooters. Congestion is the result of, among others, limited car ownership, with locals resorting to much cheaper scooters. There is a lack of bus lines run by the city committee, which has now been introduced even in Yangon (ICG, 2016: 12), meaning that resorting to private transportation is the only realistic way to move around town. Last but not least is the poor state of the finances of the local regional and central government. With tax collection and revenues expected to increase in the coming years, the local administration should be in a better shape to manage and deliver services. Tackling all these issues at once is a tall order for the local authorities, especially for Myanmar's

Photo 5. Author's photos, street vendors outside Zegyo market, April 2016.

local administrative organs, which appear to lack funds, data, and skills[11] (ADB, 2015b).

At present, the single most ambitious project, which articulates a new vision for Mandalay, is the Mandalay Urban Services Improvement Project (MUSIP).[12] The aim of the project is to create a clean and green city by 2040, when the city's population will have more than doubled, and to improve the environment and public health conditions. The project's main output would be four-fold: the rehabilitation of the existing water supply system; non-revenue water reduction; waste water collection and treatment; and raising public awareness (ADB, 2015a: 2). This is the first major urban investment project in over 25 years, in fact since the Asian Development Bank funded the current project's predecessor, which supplied treated water to about half of the city's population. Funding for the $129.9 m MUSIP is provided by the ADB ($60 m, ca. 46.2%) and the Agence Française de Développement (French Agency for Development, $$46 m, or 45.4%), among others.[13] MUSIP was approved by the Mandalay City Development Committee, which will implement the project starting from 2017, whereas the Mandalay Regional government will be the executing agency (ADB, 2015a: 5). The plan, in its scope, aims and ambition, resembles the master plan of Yangon city (YUTRA, Yangon Urban Master Plan), financed by JICA, Japan's aid agency. The project's main focus is on addressing the poor state of Mandalay's public health system, with a special focus on water supply, drainage, and sanitation. The existing water supply system in Mandalay was built with an ADB loan in the 1990s (ADB, 2015a: 2). Although the main pumping station functions, the expansion of the city means that only part of its residents are covered and that intermittent untreated water supply is delivered to more than half of its residents (ADB, 2015a: 2). Though ambitious and well-funded, the project – in its implementation phase – will be confronted with one of the main issues the aid community is facing in Myanmar, namely the low capacity to manage and implement projects (Fumagalli, 2017a).

The urbanization process in Myanmar is expected to deliver socio-economic growth and development (UN-Habitat, 2016a, b: 39), but also entails heightened risks, as it has become already apparent. Myanmar's vulnerability to natural hazards is exacerbated by global climatic changes, as outlined in Section 2. Climate change directly impacts urbanization in Myanmar. It does so through a booming construction sector, the increased consumption of energy, and the heightened pressure on existing infrastructure, services and housing. To mitigate such effects the government in Nay Pyi Taw is taking measures to mainstream climate change into climate-sensitive policies such as urban development. This is done by the Myanmar Climate Change Alliance (MCCA) program, an initiative of the Ministry of Natural Resources and Environmental Conservation, implemented by the UN Human Settlements Programme, the UN Environmental Programme and funded by the European Union. MCCA aims at mainstreaming climate change into Myanmar's development agenda by raising awareness, formulating policies, building technical capacity.

Building climate-change resilient and sustainable cities is considered a key area of work by the new government and is included in the National Comprehensive Development Plan 2011–2031. The Myanmar Climate Change Strategy and Action Plans 2016–2030, was finalized in early 2017 (Ministry of Natural Resources and Environmental Conservation (MoNREC), (2017)). Taken as a whole, it presents a roadmap to guide the country's strategic response to address climate change-related risks over the next fifteen years. In sum, Myanmar has the opportunity to steer the process towards achieving urban resilience by integrating concepts of participation, resilience and adoption of low-carbon technologies into urban planning and development approached to develop more inclusive, sustainable and resilient cities (UN-Habitat, 2016a, b: 40).

7. Conclusion

One of the least urbanized societies in one of the most urbanized regions of the world, Myanmar is at a crucial time in its history. The country is experiencing an economic boom triggered by the post-2011 political reforms and its greater engagement with international partners. With an urban population rapidly, urbanization is adding strains on services and infrastructure already under stress. Nowhere is this more evident than in the country's two main cities, Yangon[14] and Mandalay.

Myanmar's reintegration into the global economy may certainly take place through large infrastructural developments, such as the gas and oil pipelines taking Myanmar's hydrocarbons in the Andaman Sea to the Yunnan province and its location on one of the spurs of China's One Belt, One Road initiative. Crucially, however, it will also take place through the ability to manage growth potential in a socially and environmentally sustainable way and through the incorporation of climate change adaptation measures in its development strategies. Synergy between local and international actors, local authorities and communities is crucial to ensure that Mandalay takes advantage of the current opportunities. The Mandalay Urban Services Improvement Project (MUSIP), with its specific focus on an integrated water supply system, is an important step towards the creation of a new Mandalay, a resilient, greener, more sustainable city. The promise is that, capitalising on the widely available support of the international community, Mandalay will be able to become, once again, an important hub in South-East Asia.

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[11] Interview at the Mandalay City Development Committee, April 2016.

[12] See project website at https://www.adb.org/projects/47127-001/main#project-overview (accessed 21 March 2017).

[13] Additional funding is provided by the UK's Urban Climate Change Resilience Trust Fund ($4 m, 3.1% of the project's budget), the EU's Asian Investment Facility ($13.1 m, 5.2%) and the Myanmar government ($13.1 m, 10.1%) (ADB, 2015a: 5).

[14] On Yangon see Nwe Than Than, 1998 and Morley, 2013.

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